

R&D 2002 Task Order For
Statistical Analysis and Technical Support
For the Special Population Statistics
Area in Population Division

January 23, 1998

I. Background and Purpose

The Special Population Statistics area within the Population Division of the U.S. Census Bureau directs and coordinates the technical and developmental work toward the collection, tabulation, and analysis of data on the following subject matter areas: ethnicity, race, the foreign-born population, migrant workers, and populations who do not have a usual residence or reside in group quarters such as shelters.

The purpose of this task order is to obtain timely statistical data analysis and technical assistance to support research in the aforementioned subject matter areas in the Special Populations Statistics area. Staff in the Special Populations Statistics area must complete specific and discrete tasks (outlined as activities below) in fiscal year 1998, ending on September 30, 1998. These tasks require timely and prompt technical assistance in statistical analysis and research, data tabulation, SAS programming, and clerical support. These tasks will also require individuals who have expertise and experience in working with decennial census data and Current Population Survey data as well as subject matter expertise in ethnicity, race, and the foreign born population.

Because of staff and time constraints, the contractor must work independently and concurrently on the assigned activities as soon as the task order is awarded. The contractor must provide on-site assistance to work cooperatively with Census Bureau staff.

II. Statement of Work

Activity 1. Statistical Analysis and Methodological Support

Statistical research and methodological support is needed to prepare and issue a series of short research reports on specific topics related to particular population groups. These statistical reports are anywhere from two to six pages in length, including tables and graphs, and are issued by the Census Bureau in order to provide timely and concise information and analysis on topics of interest to the general public and other stakeholders. These research reports are written in a concise and cogent fashion and must meet Census Bureau statistical standards. Further, these reports are also in line with the Census Bureau's research efforts in specific demographic and statistical areas.

Attached to this task order are recent examples of research reports on topics such as the demographic characteristics and citizenship status of the foreign-born population, income inequality in postwar years, the demographic and socioeconomic characteristics of the Hispanic population, the household and family characteristics of the nation, Black children in America, and the demographic characteristics of the Nation's population. Generally speaking, these reports rely on recent data from current surveys, although decennial census data and information from past surveys can be used to document and demonstrate change over time.

The contractor will work cooperatively with Census Bureau staff to specify the scope and specific content of a minimum of three short research reports similar to the Census Bureau reports attached to this Task Order. Although the planning and development of the research reports will be a joint effort between the contractor and Census Bureau staff, the contractor is expected to work independently. Because of time constraints and the limited availability of senior Census Bureau staff, the contractor is also expected to assemble and provide the necessary resources to concurrently work on the aforementioned reports in order to produce the minimum number of research reports and to meet the schedule specified of Section IV (Schedule) in this Task Order.

The contractor will actively participate in all aspects of the development of the research reports, including data processing, tabulation, analysis, and statistical testing. It will be the responsibility of the contractor to prepare the report for publication, per Census Bureau guidelines. The Census Bureau will be responsible for the reproduction and distribution of the reports.

The Census Bureau plans to develop and issue a minimum of three research reports under this Task Order. Based on contractor performance, other such reports may be initiated in FY 98. The major data source for all reports is the March CPS, but other data sources may be included (e.g., 1990 census data) to augment the CPS.

List of Tasks

1. In collaboration with Census Bureau staff, specify scope and content of each of the three planned short research reports. Work with Census Bureau staff to develop outline and table shells.
2. Work with Census Bureau staff to develop SAS programs to process and analyze data, and produce the necessary tabulations. Develop accurate and complete documentation of all SAS programs to facilitate the development and production of updated tabulations when data become available.
3. Work collaboratively with Census Bureau staff to conduct data analysis, and statistical testing, and to write the reports.
4. Produce the necessary tables, charts, graphs, text of analysis and all associated electronic files per specifications provided by the Census Bureau for report production.

Activity 2. Tabulation and Programming Support

The objective of this activity is to produce custom-made tabulations (paper copy and electronic spread sheets) and tailor-made electronic data files (in SAS data sets) on the social and demographic characteristics of the foreign-born population from the 1970, 1980, and 1990 decennial censuses sample data. These files will greatly enhance our ability to research and analyze trends in the growing foreign-born population.

The contractor must develop all technical documentation for the electronic data files. The Census Bureau will provide the contractor with access to all census data files necessary to accomplish this activity. Because these data are protected by Title 13 all staff members working for the contractor must pass the security clearance required by the Census Bureau. Further, the contractor will be responsible for preparing a security plan that meets Census Bureau requirements for the electronic sharing of Title 13 data. This security plan will be developed by the contractor in consultation with Census Bureau staff.

The production of custom tabulations and tailor-made electronic data files consists of two parts: Part A involves the creation of about 150 SAS data sets, one for each state (50 for 1970, 50 for 1980, and 50 for 1990); Part B is the creation of custom tabulations and electronic data files on the demographic and socioeconomic characteristics of the foreign-born population. The Census Bureau will need assistance with both Part A and Part B.

Part A

The Census Bureau will provide the contractor with electronic files containing ALL records in decennial sample data (“long-form” data) for a given census year. The Census Bureau will need assistance in ensuring that these data sets contain accurate data. In order to determine this, the contractor will work collaboratively with the Census Bureau to develop SAS programs to replicate selected demographic and housing tabulations from Census Bureau reports. The contractor will then check its SAS tabulations with those provided in Census Bureau reports. If the contractor’s tabulations match those in Census Bureau reports, the contractor will finalize the SAS data set and prepare the necessary technical documentation. If the contractor’s tabulations do not match those in the Census Bureau report, the contractor will make the necessary revisions to the SAS programs and rerun the state data. The contractor will then prepare the necessary technical documentation after the SAS data set is finalized.

These procedure will be followed for a single state in each census year (1970, 1980, and 1990). Thus, the contractor will need to tabulate and check data for three states, one for each of the three census years. After state data have been finalized the contractor will then prepare the necessary technical documentation of SAS programs and of SAS data sets.

Part B

The contractor will work cooperatively with the Census Bureau and the Immigration and Naturalization Service (INS) representative in order to produce table specifications and specifications for data extracts using all 150 SAS data sets containing sample data from the 1970, 1980, and 1990 decennial censuses. Once table specifications and data file requirements are provided, the contractor must work independently to produce the desired tables and electronic data extracts.

List of Tasks

Part A - Production of final SAS data sets for 1970, 1980, and 1990 decennial census sample data.

- 1A In consultation with Census Bureau staff, develop a security plan that meets Census Bureau requirements for the electronic sharing of Title 13 data.
- 2A Specify population and housing tabulations for each of the three census years (1970, 1980, and 1990) that will be replicated and verified by the contractor.
- 3A Develop SAS programs to replicate published tables based on 1990, 1980 and 1970 decennial census data. SAS programs will replicate tabulations for one state for each census year. Thus, SAS programs will be developed to replicate data for three states, one for each census year.
- 4A Run SAS programs developed in Task 1A and verify tabulations.
- 5A Meet with Census Bureau staff to discuss the results of the verification process.
- 6A If necessary, rerun state data.
- 7A Once SAS data sets are finalized, develop clear and full technical documentation of SAS programs and SAS data sets. (For example, name of SAS data set, variable name, variable location, variable length, distinction between numeric and character variables, frequency distribution for each variable, etc.)

Part B - Production of custom tables and tailor-made electronic data extracts of the foreign born population

- 1B Meet with the Census Bureau and a representative from the INS to discuss and determine specifications for tabulations and electronic data extracts.
- 2B Develop table shells (based on specifications developed in Task 1B) for comment.

- 3B Incorporate Census Bureau comments and produce final tabulations.
- 4B Meet with the Census Bureau and a representative from the INS to discuss and determine specifications for developing electronic data extracts of the foreign-born population.
- 5B Develop electronic data extracts and necessary documentation (based on specifications developed in Task 4B) for review and comment.
- 6B Incorporate Census Bureau comments and produce final electronic data extracts and accompanying documentation as specified in Task 6A above.

Activity 3: Technical Assistance and Clerical Support

As part of its ongoing mission, Census Bureau staff is preparing a comprehensive research report on the demographic and socioeconomic characteristics of the foreign-born population which must be issued by September 30, 1998. To meet this deadline, the Census Bureau needs technical assistance to verify texts, charts and tables for the report.

The specific needs of the Census Bureau under this activity are as follows.

The Foreign-Born Report will contain extensive and detailed tables with color graphs, charts, and figures. The Census Bureau needs clerical assistance from persons with experience in verifying texts, tables, graphs, charts, and figures. As high quality products is one of the Census Bureau's hallmarks; it is, therefore, very important that clerical staff assigned to this activity be well- trained and experienced workers.

List of Tasks

1. Meet with Census Bureau to discuss activity and expected demand for technical assistance and clerical support.
2. Verify text, tables, graphs, and charts.
3. Ensure that text is consistent with figures presented in tables, graphs, and charts.
4. Proof read final document to ensure accuracy and consistency.

Activity 4: Research on the Foreign-Born Population and Immigration

The purpose of this activity is to improve the estimates of immigration that are used in the Census Bureau's official estimates of population. The immigration component is currently the weakest link of the three components of population change (births, deaths, immigration). The substantial growth of immigration over the past three decades increases the importance of this component. Improved estimates of immigration will lead directly to improved population estimates. Since population estimates will evaluate the accuracy of the upcoming 2000 Census, the research on immigration is especially urgent.

The research needed to improve the components of immigration deals with three distinct components: (1) legal immigration and net overseas movement of citizens, (2) emigration of the foreign-born and native-born, and (3) undocumented immigration. Current estimates for the last two components are most in need of research and improvement.

A variety of methods have been used to estimate the components of immigration. Other potential methods exist but have not been exploited. These include:

(1) Immigration--the bulk of this estimate is based on administrative data from the Immigration and Naturalization Service (INS) (for new immigrants) and from the Department of Defense (for Armed Forces overseas). The other smaller parts of the immigration component that require estimation are for net movement from Puerto Rico and outlying areas, net movement of civilian citizens, and net movement of foreign students.

(2) Emigration--no administrative data specific to emigration exists, so estimation methods must be used. These methods include a cohort component approach (comparing counts from two different censuses), multiplicity estimates (based on questions asked in a survey studies, such as the Current Population Survey), and analysis of administrative data (Social Security data, IRS data, State Department data on civilians registered at U.S. Embassies, data from major corporations of employees assigned overseas).

(3) Undocumented immigration--no current administrative data on the undocumented population exists; data on immigrants legalized under provisions of the Immigration Reform and Control Act provide benchmark historical estimates. Methods for estimating the size of the undercounted population include the cohort component or "residual" approach (two different estimates are compared, one which doesn't include undocumented and one which does), the analysis of INS data on non-immigrant to estimate visa over-stayers, the "consistent correction" approach of Luther and Passel, and other survey-based estimates.

The contractor will work cooperatively with Census Bureau staff to specify the scope of research needed to improve the immigration components, given overall funding and time constraints. Consideration will be given to method of estimation, availability of data to implement the method, feasibility of deriving meaningful estimates, and cost.

List of Tasks

1. Meet with Census Bureau staff to scope the research needed to improve the immigration components.
2. Based on meetings with Census Bureau staff, work cooperatively with Census Bureau staff to develop a research plan designed to improve the immigration components. The plan must take funding and time constraints into account. The plan should also reflect other key considerations such as method of estimation, availability of data to implement method, and feasibility of deriving meaningful estimates.
3. In conjunction with Census Bureau staff, select and execute the components of the research plan that can realistically be completed in fiscal year 1998.

III. Products

The contractor will provide the following products according to the schedule specified in Section IV.

Activity 1. Statistical Analysis and Methodological Support

The contractor will work collaboratively with Census Bureau staff to produce the following products.

1. Provide outlines, table shells, and schedule for data processing, data analysis, and text production for each of the three short research reports specified in Section II (Statement of Work). The schedule will provide a list of milestones with realistic due dates that will result in the completion and issuance of at least three research reports by September 30, 1998.
2. Produce all the necessary SAS programs to process, tabulate, and analyze data for the reports.
3. Process all necessary data for the reports.
4. Produce accurate and complete documentation of all SAS programs and data files developed for the production of the reports.
5. Develop a complete draft (all tables, charts, statistical tests, and accompanying text) of

the reports according to the schedule developed in Task 1 and approved by the Census Bureau.

6. Produce final drafts of the reports (including the associated electronic files and documentation) according to Census Bureau specifications.

Activity 2. Tabulation and Programming Support

The contractor will work collaboratively with the Census Bureau to produce the following products.

Part A - Production of final SAS data sets for 1970, 1980, and 1990 decennial census sample data.

- 1A Provide a security plan that meets Census Bureau requirements for the electronic sharing of Title 13 data.
- 2A. Work cooperatively with Census Bureau staff to identify population and housing items for verification.
- 3A. Prepare SAS programs to replicate selected population and housing census data for three states, one state for each of the following census years: 1970, 1980, and 1990.
- 4A. Deliver verified tables for selected population and housing items specified in Product 1A.
- 5A Once SAS data sets are finalized, deliver clear and full technical documentation of SAS programs and SAS data sets. (For example, name of SAS data set, variable name, variable location, variable length, distinction between numeric and character variables, frequency distribution for each variable, etc.)

Part B - Production of custom tables and tailor-made data extracts of the foreign-born population

- 1B Provide table shells based on specifications from the Census Bureau.
- 2B Provide electronic data extracts based on specifications provided by the Census Bureau.
- 3B Deliver final electronic data extracts and accompanying documentation as specified in Task 4A above.

Activity 3: Technical Assistance and Clerical Support

The contractor will work collaboratively with the Census Bureau to produce the following products.

1. Provide verified tables, charts, and graphs.
2. Provide verified text.
3. Provide tables, charts, and graphs, as assigned.

Activity 4: Research on the Foreign-Born Population and Immigration

The contractor will work collaboratively with Census Bureau staff to produce the following products.

1. Conduct no fewer than three half day meetings lasting no less than four hours with Census Bureau staff to scope the research needed to improve immigration components.
2. Based on meetings held with Census Bureau staff, produce a research plan designed to improve immigration components.
3. If authorization is provided by the Census Bureau, execute selected parts of the research plan.

IV. Schedule

All activities must be completed and all deliverables provided to the Census Bureau according to the following schedule. All work must be completed by September 30, 1998.

Activity 1. Statistical Analysis and Methodological Support

1. Contractor meets to discuss Activity 1 with the Census Bureau within one (1) week of award date.
2. Contractor assigns appropriate on-site staff to work collaboratively with the Census Bureau on all the tasks under Activity 1 specified in Section II (Statement of Work) two (2) week of award date.
3. Contractor finalizes outline, table shells, and schedule for data processing, analysis, and

text production for each research reports four (4) weeks of award date.

4. Contractor finalizes SAS programs for data processing, tabulation, and analysis six (6) weeks of award date.
5. Contractor provides a first draft of completed research reports (including all tables, charts, and associated text) twelve (12) weeks of award date.
6. Contractor provides final research reports including all table, charts, and graphs and all associated electronic files per Census Bureau specifications eighteen (18) weeks of award date.
7. Contractor provides complete documentation of all SAS programs and data files (including associated electronic files) to the Census Bureau twenty-one (21) weeks of award date.

Activity 2. Tabulation and Programming Support

Part A - Production of final SAS data sets for 1970, 1980, and 1990 decennial census sample data.

- 1A Contractor meets to discuss Part A of Activity 2 with the Census Bureau within 2 weeks of award date.
- 2A Contractor provides the Census Bureau with list of population and housing items for verification within three (3) weeks of award date.
- 3A Contractor provides the Census Bureau with a security plan that meets Census Bureau requirements for the electronic sharing of Title 13 data three (3) weeks of award date.
- 3A Contractor provides verified tabulations of population and housing items (as noted in deliverable 2A above) three (3) weeks after the Census Bureau makes data files available to the contractor.

Part B - Production of custom tables and tailor made data extracts of the foreign-born population

- 1B Contractor meets with the Census Bureau to discuss Part B of Activity 2 within three (3) weeks of award date.
- 2B Contractor provides the Census Bureau with a draft of specifications (table shells) for tabulations six (6) weeks after award date.

- 3B Contractor provides the Census Bureau with revised specifications (table shells) for tabulations two (2) weeks after receiving comments from the Census Bureau.
- 4B Contractor provides the Census Bureau with final tabulations (electronic copy and paper copy) four (4) weeks after the Census Bureau approves final specifications.
- 5B Contractor provides the Census Bureau with a draft of specifications for electronic data extracts and draft of documentation six (6) weeks after award date.
- 6B Contractor provides the Census Bureau with revised specifications for electronic data extracts and revised documentation two (2) weeks after receiving comments from the Census Bureau.
- 7B Contractor provides the Census Bureau with final electronic data extracts and final documentation four (4) weeks after the Census Bureau approves final specifications and final documentation.

Activity 3: Technical Assistance and Clerical Support

Contractor support for this activity will not be required until mid March 1998, at the earliest, with completion by mid-April 1998.

Activity 4: Research on the Foreign-Born Population and Immigration

- 1. Contractor meets with Census Bureau staff to discuss Activity 4 within four (4) weeks of award date.
- 2. Contractor initiates, conducts, and completes meetings with Census Bureau staff to scope the needed research within nine (9) weeks of award date.
- 3. Contractor finalizes research plan within twelve (12) weeks of award date.
- 4. Contractor conducts and completes selected research tasks specified in the research plan before the end of fiscal year 1998.

V. Staffing and Cost Estimates

Activity 1. Statistical Analysis and Methodological Support

This activity will require the contractor to provide two or more on-site professional level staff persons to work collaboratively with Census Bureau staff on the planning and development of

reports. The on-site professional must be a graduate level social scientist with practical experience in processing and analyzing CPS and decennial census data. In order to meet the schedule for this activity presented in Part IV of this Task Order, it is mandatory that the on-site professional(s) have practical experience working with CPS and decennial census data. These individuals must also be able to work independently, as required.

Activity 2. Tabulation and Programming Support

Part A - Production of final SAS data sets for 1970, 1980, and 1990 decennial census sample data: This segment of Activity 2 will require a highly qualified SAS programmer with practical experience in tabulating decennial census data, particularly for the following census years: 1970, 1980, and 1990. Additionally, experienced data verifiers are needed to verify the SAS tabulations with tabulations from existing census volumes.

Part B - Production of custom tables and tailor-made data extracts of the foreign-born population: This segment of Activity 2 will require a highly qualified SAS programmer with practical experience in tabulating decennial census data as well as a professional level person who has expertise on the demography and socioeconomic characteristics of the foreign-born population. The Census Bureau will also consider someone with this subject matter background who is also an excellent SAS programmer with experience in tabulating decennial census data.

Activity 3: Technical Assistance and Clerical Support

Highly-experienced data verifiers are needed. We estimate that data verification and checking will take one person month. However, several staff persons from the contractor may need to be assigned to this activity since the actual verification and checking will most likely be conducted in two weeks in order for the Census Bureau to meet its deadline.

Activity 4: Research on the Foreign-Born Population and Immigration

This activity requires highly-qualified senior-level professional staff with expertise and experience in the development of immigration estimates. This staff will meet and work cooperatively with Census Bureau staff to develop and to produce a research plan to improve immigration estimates.

Relatively less senior-level professional staff with expertise and experience in immigration research is needed to work cooperatively with Census Bureau staff to implement selected aspects of the research plan by the end of fiscal year 1998.

VI. Government-Furnished Materials

Activity 1. Statistical Analysis and Methodological Support

The Census Bureau will provide the contractor with access to all the necessary data files and all available file documentation.

The Census Bureau will provide office space, computer, and other equipment.

Activity 2. Tabulation and Programming Support

The Census Bureau will provide the contractor with access to 1970, 1980, and 1990 decennial census files via telecommunication. All data files will be stored at the Census Bureau and all processing will take place at the Census Bureau using the agency's microcomputers.

For this Activity the Census Bureau has dedicated 75 gigabytes for storage and processing. The agency estimates that, if compressed in ASCII format, files from all three census years will use 75 gigabytes of storage. Thus, there is not sufficient memory to store files from the three census years and conduct data processing. For this reason, some files will need to be stored on tape or laser discs.

The contractor is required to work within these constraints by tailoring its data processing activities and SAS programs to the storage and processing constraints outlined above.

The Census Bureau will provide the contractor with processing and data storage capabilities.

Activity 3: Technical Assistance and Clerical Support

The Census Bureau will provide office space for up to two technical and clerical support persons.

Activity 4: Research on the Foreign-Born Population and Immigration

If needed, the Census Bureau will provide office space, computer, and other equipment to on-site personnel working cooperatively with Census Bureau staff to implement the research called for in the research plan.